

A PHENOMENAL AORTIC  
ANEURYSM.

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NEW YORK

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## A PHENOMENAL AORTIC ANEURYSM.\*

By W. GILMAN THOMPSON, M.D.,

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THE occurrence of an abdominal aortic aneurysm of falsely sacculated and dissecting type, measuring 6 x 9 x 11 inches, containing 6½ quarts of fluid blood and clots (3,500 c.c.), causing marked displacement of the kidneys, and erosion of five vertebræ, is so unusual a phenomenon as to merit permanent record. The case is of further interest from the fact that until within three weeks of his death, the patient was able to walk about. He became mentally deranged, however, and his "friends," to get rid of him, had him arrested upon a bogus charge of attempted suicide from gas poisoning, so that he was finally brought to the Presbyterian Hospital, accompanied by a burly policeman, as an illustration of the practical working of the absurd State antisuicide law, which makes attempted self-destruction a penal offence, and under which there has never yet been a conviction!

The patient was an Italian day laborer, 39 years of age. He had contracted syphilis when 21 years old, for which he had been treated. With this exception he had had no other illness but malaria, until four years prior to his death, when he had much general abdominal pain accompanied by melina,

\*A paper read before the Practitioners' Society, March 6, 1908.

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which occurred from time to time for several months. He recovered, and remained well for a year, when, two years and a half before he came under observation, he was again attacked by severe abdominal pains which chiefly occupied the lower right side of the abdomen and radiated down the right thigh, being often worse at night. He suffered also from constipation and frequent micturition. These symptoms continued with varying severity until within six months of the patient's admission to the hospital when the pains in the abdomen and right thigh became severe and frequent. They were made markedly worse upon standing, when the abdomen became distended and tense, hard and tender, but upon sitting or lying down, the patient was relieved. He lost much weight and became anemic.

Upon admission to the hospital the man appeared emaciated and pale and suffered great pain upon attempting to fully extend the right leg. Blood examination showed a hemoglobin percentage of 35, a red cell count of 2,600,000 and a polynucleosis of 87 per cent. The heart appeared normal in size, but the rhythm was infantile and a faint systolic bruit was apparent over the apex and base. The arteries were moderately thickened and the pulse dicrotic, of poor quality. In the chest were signs of a moderate bronchopneumonia with fluid in the left pleural cavity. Behind both liver and spleen were large strongly pulsating masses which caused considerable bulging of the lower ribs posteriorly. Upon the right side especially, the expansile pulsation was visible through an arc of fully half an inch, and there was a sensation of fluctuation, but without definite bruit at that region. Anteriorly tumor masses of harder feel extended into the groin on both sides, and on the right a hard mass the size of an egg was

distinctly felt lying superficially a couple of inches above Poupart's ligament. This mass, and a similar one less distinctly felt upon the left, I mistook for new growths, but they proved to be the dislocated kidneys imbedded in a mass of connective tissue so dense that at autopsy they had to be dissected out before their real nature became apparent.

The right side of the abdomen was very prominent anteriorly, but the only site where a bruit was distinctly audible was over a limited area to the left of the umbilicus. This fact must have been due to the number of large clots which filled the tumor.

It was difficult to believe that so large a mass, bulging out the abdomen over both flanks and behind both liver and spleen could be a single aneurysm, and at one time there seemed reason to suspect that it was a multiple angiosarcoma of gigantic proportions. This belief was encouraged by the variations in density of the tumors, pulsating in parts, elsewhere hard and nodular, and by the patient's condition of emaciation and anemia. The fluctuating mass to the outside of and behind the liver, suggested the presence of an abscess with transmitted pulsation, a belief supported by the blood examination which showed a high polynucleosis. I therefore suggested to the house physician to put in an aspirating needle at this point, but to use a small one. The needle must have passed into a clot, for it yielded no result, beyond a few drops of blood. The subsequent rapid increase in size of the mass and increase in intensity of pulsation left little doubt that it must be an aneurysm, but even at autopsy the mass was so obscured by dense connective tissue and distorted muscles and viscera, that it was not until it was laid open that its nature became certain. The irregular density and shape of

the mass, as felt through the abdominal wall, was explained by the variations in thickness of the aneurysmal sac and the unexpected position of the imbedded kidneys.

After eight days in hospital, the patient died from edema of the lungs and brain. The autopsy, performed by Dr. Meakins of the pathological department, is summarized as follows:

*Autopsy.*—The liver, which weighed only 1,000 grams, was thin and flattened against the anterior abdominal wall; it occupied a normal position, and showed fatty degeneration. The spleen weighed 200 grams, and was bound in the normal position by adhesions. Both kidneys lay below the umbilicus, the right being a couple of inches above Poupart's ligament, and both were in contact with the abdominal wall, imbedded in a mass of connective tissue; they weighed 50 grams each, and the capsules were adherent. To remove the aneurysm entire the psoas and iliacus muscles had to be removed upon both sides, leaving only the skin of the posterior abdominal wall. The aneurysm occupied the entire posterior part of the abdomen, extending from the diaphragm to the lower border of the sacral prominence, in the median line, and reaching down on either side as far as Poupart's ligament. On removing the large laminated clots which filled most of the cavity, the wall of the aneurysm was found composed of the intima, the other arterial coats being indistinguishable excepting over a very small area. The aneurysm appeared to have originated from the posterior wall of the abdominal aorta, not from any of its branches. Five vertebræ were eroded, viz., the eleventh and twelfth dorsal, first, second, and third lumbar. The first lumbar vertebra was so deeply eroded that the meninges were



exposed, and a groove three-fourths of an inch in depth occupied the anterior part of its body.

The heart was normal in size, firm, and showed some increase in fibrous tissue; the myocardium was firm and the coronary arteries were clear; the mitral and aortic cusps were somewhat thickened, and atheromatous plaques involved the base of the thoracic aorta. At the root of the thoracic aorta a small fusiform aneurysm ( $3\frac{1}{2}$ -6 cm. in diameter), was discovered. Both pleuræ were adherent, and in the left pleural cavity were about 300 c.c. of clear serum. Bronchopneumonia was present.

The patient's emaciation may have been due to pressure upon the pancreas or ductus choledochus or liver, but neither sugar nor bile were discovered in the urine. The only suffering of which he complained while in hospital was from pain in the right leg which he kept in semiflexion. He was too ill to justify an exhaustive study of the reflexes or condition of the spine before death.

Aneurysms of this type and size are exceedingly rare, and have sometimes been mistaken for angiosarcoma, or parasitic tumors (actinomycosis, hydatids, etc.), pulsating abscesses or cysts. Sansom, of London, writing of this topic, states. "It is surprising how large an aneurysm and how considerable a displacement of organs may be undetected when the sac is close to the vertebral column and does not bulge forward."\* He also refers to the paroxysmal and nocturnal type of pain existing when there is erosion of the vertebræ, a phenomenon noted in the case above reported.

In a statistical study of 10,360 autopsies made in Jena, Ernst Müller† found 69 cases of aneurysm

\*Twentieth Century Pract., Vol. IV., p. 511.

†"Zur Statistik der Aneurysmen" (Thesis).







FIG. 1.—Abdominal aneurysm, extending from the diaphragm to the prominence of the sacrum, measuring 6 x 9 x 11 inches, and containing 3,500 c.c. of clots and blood.



FIG. 2.—Erosion of the eleventh and twelfth dorsal and the first, second and third lumbar vertebræ, caused by an abdominal aneurysm.

which involved some portion of the aorta, but only 6 of these sprang from the abdominal aorta, one in a female, 5 in males. Thus a ratio of scarcely more than 3 per cent. were abdominal in this series. Among 468 cases of aneurysm at St. Bartholomew's Hospital 23 were of the abdominal aorta (approximately 5 per cent.). At the Presbyterian Hospital, New York, during the past 25 years the clinical diagnosis of aneurysm has been made 158 times. Among these cases 108 were aneurysms of the aorta, including 21 of the abdominal aorta. As the earlier records of the hospital, however, are somewhat defective, this large proportion of abdominal aneurysms, so at variance with experience elsewhere, must be attributed, in the cases unconfirmed by autopsy, to a too frequent inclusion of simple pulsating aorta. In Bellevue Hospital during the past five years there have been 82 cases of aneurysm of the aorta, including only three of the abdominal division, among 81,338 patients treated on the medical service alone.

In the case above described it is reasonable to suppose from the history, that the lesion began in the abdominal aorta about two and a half years prior to death and developed rapidly during the last six months of the man's life. Considering the phenomenal size of the mass and the compression and displacements to which it gave rise, it is astonishing that the patient presented so few subjective symptoms.

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